

291

5.8

p2cc 15, 17, 23, 27, 30, 33, 35

15. $a^{\frac{1}{2}} + 9 = 0$

$$(a^{\frac{1}{2}})^2 = (-9)^2$$

$$a = 81$$

 \emptyset

17. $(\sqrt[3]{c-1})^3 = 2^3$

$$c-1 = 8$$

$$c = 9 \checkmark$$

23. $\sqrt{x-5} = \sqrt{2x-4}$

$$x-5 = 2x-4$$

$$-1 = x$$

 \emptyset

27. $-2 + \sqrt{9-5x} \geq 6$
 $\sqrt{9-5x} \geq 8$

$$9-5x \geq 64$$

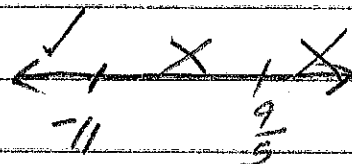
$$-5x \geq 55$$

$$x \leq -11$$

$$9-5x \geq 0$$

$$-5x \geq -9$$

$$x \leq \frac{9}{5}$$



Test 0 $-2 + 3 \not\geq 6$

$$-2 + \frac{\sqrt{9-(5)(-12)}}{\sqrt{69}}$$

$$6.4 \geq 6 \checkmark$$

$$x \leq -11$$

30. $\sqrt{y+21} - 1 = \sqrt{y+12}$

$$(\sqrt{y+21} - 1)(\sqrt{y+21} + 1) = (\sqrt{y+12})(\sqrt{y+12})$$

$$y+21 - 2\sqrt{y+21} + 1 = y+12$$

$$-2\sqrt{y+21} + 22 = 12$$

$$-2\sqrt{y+21} = -10$$

$$\sqrt{y+21} = 5$$

$$y+21 = 25$$

$$y = 4$$

33. $(\sqrt{2} - \sqrt{x+6})^2 \leq (\sqrt{x})^2$
 $(\sqrt{2} - \sqrt{x+6})(\sqrt{2} + \sqrt{x+6}) \leq x$

$$2 - 2\sqrt{2(x+6)} + x+6 \leq x$$

$$-2\sqrt{2(x+6)} \leq -8$$

$$\sqrt{2(x+6)} \geq 4$$

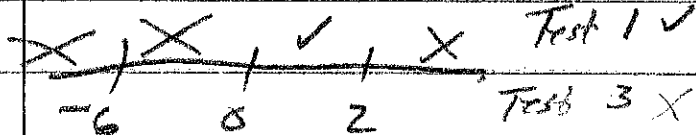
$$2(x+6) \geq 16$$

$$x+6 \geq 8$$

$$x \geq 2$$

Restr.

$$x \geq 0 \quad x \geq -6$$



$$0 \leq x \leq 2$$

$$35. \sqrt{b-5} - \sqrt{b+7} \leq 4$$

$$\left(\sqrt{b-5}\right)^2 \leq \left(4 + \sqrt{b+7}\right)^2$$

$$b-5 \leq 16 + 8\sqrt{b+7} + b+7$$

$$-28 \leq 8\sqrt{b+7}$$

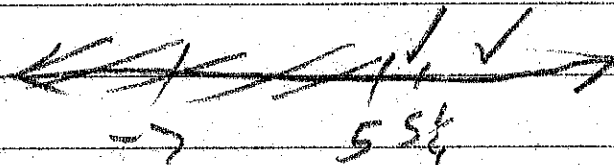
$$-7^2 \leq (2\sqrt{b+7})^2 \quad +4$$

$$49 \leq 4(b+7)$$

$$49 \leq 4b + 28$$

$$21 \leq 4b$$

$$5.25 \leq b$$



Restr.

$$b \geq -7 \quad b \geq 5$$

$$b \geq 5$$

Test 5.1

$$\sqrt{.1} - \sqrt{12.1} \leq 4 \quad \checkmark$$

Test 6

$$\sqrt{1} - \sqrt{13} \leq 4 \quad \checkmark$$